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innovative waste solutions

December 11, 2007

David Womacks
Director of Public Works
City of Oakland Park
3801 NE 5th Avenue
Oakland Park, FL 33334

RE: **Letter Report on Preliminary Analysis of Recycling Program**
KCI Project Number 49-00

Dear Mr. Resor:

Kessler Consulting, Inc. (KCI) is pleased to submit this letter report on the results of our preliminary analysis of the City of Oakland Park's (City) recycling program. This work was initiated as part of the Solid Waste Utility Rate Study conducted by Public Resources Management Group, Inc. (PRMG). The purpose of this task was to evaluate the City's existing residential and commercial recycling programs and to provide options for increasing participation, increasing tonnage, and optimizing operational efficiencies. The City's goal is to reduce the disposal of refuse, and the associated costs, and to maximize revenues from the sale of recovered materials.

To accomplish this task, KCI reviewed current program information and data provided by the City and Broward County, and met with Public Works staff on November 19, 2007. This letter report provides a summary of the City's current recycling programs and our findings and enhancement recommendations. PRMG's report, "2008 Solid Waste Utility Rate Study," provides a comprehensive financial analysis of the City's current solid waste management system; therefore, this report focuses entirely on the recycling-related elements of the system.

SUMMARY AND ANALYSIS OF EXISTING RECYCLING PROGRAM

Residential Recycling

The City's Solid Waste Department provides refuse, bulk trash, and recyclables collection services to approximately 5,800 residential customers (including multi-family). An additional 4,066 residential accounts in recently annexed areas are provided refuse, bulk trash, and recyclables collection services by Waste Management and All Service Refuse. The City has automated cart collections while the



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contractors use a manual collection system; however, all collect residential recyclables in a dual-stream system using crates or 18-gallon recycling bins.

The City's basic monthly fee for residential service is currently \$26.26 per household for twice per week refuse collection and \$2.04 per household for weekly recyclables collection, for a total of \$28.30 per household per month. All City residents are billed for recycling service whether the resident participates or not. PRMG has recommended increasing the basic residential refuse and recycling fee in January 2008 to \$31.41 per month, with no separate recycling fee. Residential accounts serviced by the contractors are assessed \$377 annually on their property tax bill (FY 2008 assessment), or \$31.41 per month (the same fee PRMG recommended for the City-serviced residents).

The City of Oakland Park participates in the Resource Recovery System (RRS) established by Broward County, which in turn has a contract with Waste Management-Recycle America (WM-RA) to process specific "program recyclables." In March 2007, Broward County renegotiated its contract with WM-RA. One of the primary changes in the contract amendment was the expansion of paper grades accepted from newspaper only to mixed paper. Provided below is a list of the program recyclables; however, cities participating in the RRS are not required to include all of these materials in their recycling programs.

Paper:

- Newspapers with inserts
- Telephone books
- Catalogs
- Magazines
- Office paper
- Junk mail
- File folders
- Soft-covered books
- Corrugated cardboard
- Chipboard (soda and beer cartons, crushed boxes)

Commingled containers:

- Aluminum containers
- Steel containers
- Glass containers (clear, brown, and green)
- #1 and #2 plastic containers
- Aseptic containers (cartons and drink boxes)

Although corrugated cardboard is accepted, neither Oakland Park nor Broward County specifically lists it in their promotional materials.

The City delivers residential recyclables to WM-RA's transfer station in Pompano, where WM-RA loads and transfers the recyclables to its Materials Recovery Facility (MRF) in Pembroke Pines. This MRF has been retrofitted to process single-stream recyclables (paper and containers collected together) and WM-RA reportedly transfers the stream materials from Pompano (including recyclables delivered dual-stream) as single-stream materials. However, the agreement between Broward County and WM-RA requires RRS cities to deliver materials as dual-stream recyclables.

Bulk trash is collected once per month from residential customers. Most bulk trash is disposed in a landfill, with the exception of white goods, which are marketed locally for scrap metal. Bulk trash may also be dropped off, for a fee, at one of eight alternate sites designated by the County. Residents may also drop off, at no charge, tires, scrap metal, and program recyclables at the City's Municipal Service Complex. Electronics may be delivered to one of three locations provided by the County: the North Collection Center in Pompano Beach, the South Collection Center in Hollywood, or Achievement and Rehabilitation Centers (ARC) Broward in Sunrise. The City is currently considering curbside collection of electronics.

Commercial Recycling

The City of Oakland Park collects commercial refuse in 96-gallon carts or city-provided dumpsters. Permitted private haulers provide compactor and roll-off refuse service to the commercial sector. Commercial customers using carts for refuse collection are charged a uniform rate based on the number of containers collected twice per week. Dumpster service accounts are billed based on the number of collections per week and the actual weight of refuse collected (a weight-based commercial system).



In addition, all commercial accounts are currently billed \$2.04 per month for recycling regardless of type or size of the container or whether the establishment participates in recycling. The City collects recyclables in 96-gallon carts or 18-gallon recycling bins. The collected recyclables are delivered to WM-RA's Pompano transfer station as part of the RRS agreement.

The City also operates an office paper recycling program. Currently three City facilities, one school, and fourteen private businesses participate in the program. Mixed office paper is collected in 96-gallon carts, which are serviced every other Wednesday by the City. The office paper is marketed to Smurfit-Stone. On several occasions during the past year, excessive contamination required the collected materials to be disposed of rather than recycled.

State law does not allow a city or county the exclusive right to collect commercial recyclables. Currently, Republic, Southern Waste Systems, and Waste Management offer corrugated cardboard recycling to businesses located in Oakland Park.

Recovered Materials and Financial Benefits

Provided below is a summary of the recyclable materials collected in Oakland Park during Fiscal Year (FY) 2007 and the financial benefits realized.

| Material | Tons | Average Revenue/Ton | Total Revenue | Avoided Disposal* | Total Financial Benefit |
|---------------------|--------------|---------------------|------------------|-------------------|-------------------------|
| Program recyclables | 1,538.45 | \$93.21 | \$143,400 | \$144,080 | \$287,480 |
| Office paper | 16.47 | \$38.98 | \$640 | \$1,540 | \$2,180 |
| White goods | 7.03 | \$80.00 | \$560 | \$390 | \$950 |
| Total | 1,562 | - | \$144,600 | \$146,010 | \$290,610 |

* Based on a WTE facility tip fee of \$93.65 and bulk waste tip fee of \$55 per ton.

Of the 1,538 tons of program recyclables collected in Oakland Park (by the City and the residential contractors) during FY 2007, 821 tons were paper and 717 tons were commingled containers. It should be noted that Broward County paid WM-RA a processing fee of \$30.45 for each ton of program recyclables it received. This expense is passed on to the RRS participants through the disposal fee. If this processing fee is taken into consideration, the net revenue for program recyclables was \$62.76 per ton, which is reasonable in today's commodity marketplace. Based on KCI's experience around the State, a number of jurisdictions are currently receiving \$40 to nearly \$80 per ton net revenue (processing fee included) for recovered materials.

The quantity of recyclables delivered by Oakland Park to WM-RA has increased 31 percent since FY 2003 (from 1,171 to 1,538 tons). However, when growth and annexation are accounted for, the recycling rate per capita decreased by approximately 26 percent between FY 2000 and FY 2006 (from 81.7 to 60.3 pounds per capita). It should also be noted that Oakland Park is not alone in this trend. Over the same period of time, the average per capita recycling rate for all RRS cities decreased by nearly 25 percent. However, had Oakland Park maintained the 81.7 pound per capita recycling rate from FY 2000, the City would have received approximately \$25,000 additional recycling revenue in FY 2007.

While some of this decrease could potentially be attributed to consumer trends, such as declining newspaper circulation, and industry trends, such as the light-weighting of food and beverage containers and the shift from glass to lighter weight plastic packaging, these alone do not account for the lower recovery tonnages. According to City records, 7,757 residential and commercial customers were billed on average each month during FY 2007 for recycling services. Combined with the 4,066 customers serviced by the contractors, this equates to approximately 0.13 tons of recyclables collected per customer per year. This is relatively low for a curbside recycling program that includes the collection of mixed paper and commingled containers, especially a program that also encompasses commercial recycling. Communities with effective residential curbside recycling programs are achieving annual recovery rates of 0.20 tons per household and higher.

In summary, for every ton of recyclables diverted from disposal in FY 2007, the City realized a financial benefit of over \$186 in recyclables revenue and avoided disposal costs.

RECOMMENDATIONS

The City of Oakland Park already has in place a number of system components that create incentives for recycling. The first is the universal payment for recycling service by not only residential customers, but also commercial customers. One of the main challenges faced by many communities that are striving to increase commercial recycling is the ability to find a hauler who will collect recyclables for a reasonable fee. The City of Oakland Park provides this service and for a very reasonable fee.

The second recycling participation incentive is the weight-based fee structure for dumpster customers, which is known as a Pay-As-You-Throw (PAYT) incentive program. Typically, dumpster service is based on the frequency of collection and the volume of the container. While this is also a form of PAYT, it is not as effective since businesses often elect to overestimate the dumpster size they need so as not to be short on capacity during busy periods. Oakland Park's program provides an even greater incentive since every pound of recyclables diverted from disposal will directly reduce a business' refuse bill, even if the business does not adjust the size of the dumpster utilized.

Since these types of incentives are already in existence, many of our recommendations pertain to education and promotion. It appears the main element lacking from the City's program is an effective way to educate customers about the benefits of the City's recycling program and how to properly participate. We also offer operational recommendations that have the potential of increasing the tonnage of materials recovered.

Based on KCI's preliminary analysis, we offer the following recommendations.

Short-term Recommendations

1. **Designate a Recycling Coordinator.** Based on KCI's experience, having a dedicated staff person, even as a part-time responsibility, to focus on recycling can be very effective, especially if that person brings new energy and fresh ideas to the outreach program. This individual would be responsible for implementation of a number of the following recommendations.
2. **Ensure the residential and commercial recycling programs include all recyclables accepted in the RRS.** Although corrugated cardboard is not included in the promotional materials developed by the City or County, it is accepted in the paper stream of the program recyclables. Therefore, the City should include and actively promote recovery of this material. Such promotion will need to include instructions for flattening cardboard boxes to fit in commercial recycling carts or to stack between or under recycling bins. Corrugated

cardboard typically comprises up to 10 percent of the municipal solid waste stream, with an even higher percentage in commercial waste.

3. **Incorporate the City's office paper recycling program into the curbside recycling program.** The City initiated the office paper recycling program at a time when the RRS accepted only newspaper. Since the RRS processing contract has been expanded to include mixed paper, operations would be more efficient if the office paper recycling program were incorporated into the curbside recycling program. A separate collection route and separate educational materials would not be needed for the office paper recycling program. In addition, the City currently receives higher revenue for recyclables processed through the RRS system than for office paper marketed to Smurfit-Stone.
4. **Enhance the bulk trash collection program to incorporate recycling.** Based on discussions with City staff, there appears to be sufficient resources to begin collecting electronics curbside along with bulk trash. ARC Broward has agreed to provide a storage/transport container and to process the recovered electronics. ARC Broward would provide this service at no additional cost to the City since it would be covered under the organization's contract with Broward County. In addition, the City should continue to seek a cost-effective option for diverting bulk trash, such as yard waste and construction materials, from disposal to a materials processor.
5. **Increase public education and program promotion.** PRMG's budget projections include \$25,000 for recycling program education and promotion. At a minimum, the City should develop a clear, concise direct-mail piece about recycling that is sent to all residential and commercial customers on an annual basis, as well as provided to new customers throughout the year. This promotional activity should be supplemented by other outreach materials and activities, which might include the following:
 - Current and clear recycling instructions on the City's website, with contact information for questions.
 - Speaker's Bureau to reach out to homeowner associations, civic groups, the Chamber of Commerce, and other business organizations.
 - Door hanger reminders for customers who are not recycling.
 - Promotion at local events.
 - Business recycling acknowledgement or awards program.
 - Print or radio advertisements as the budget allows.

The City might also consider conducting a recycling participation study or focus groups to gain additional knowledge concerning why residents and businesses do or do not recycle and how to best structure the recycling message to the targeted group.

6. **Ensure all residents have recycling bins.** The City should eliminate the \$10 deposit charged to residential customers for recycling bins. Part of the education campaign

mentioned above should focus on ensuring that all customers have recycling bins. Although on a much larger scale, in 2005, the Solid Waste Authority of Palm Beach County (SWA) launched a media campaign called “Jump on the Bin Wagon.” During the two-month campaign, more than 19,500 additional recycling bins were distributed as a result of customer requests.

7. **Establish a technical assistance program for businesses and multi-family complexes.** With the direct financial incentives that are already in place, it is surprising that more businesses are not recycling. One can only assume that they do not fully understand the benefits of the program or do not know how to establish a program. Direct technical assistance to businesses can help resolve this lack of awareness, as well as educate companies of the goodwill value of being environmental stewards. The types of technical assistance that businesses typically need include the following:
 - Site visits and visual waste audits.
 - Assistance in planning the logistics of collecting recyclables within the company, such as container placement and addressing space limitations.
 - Assistance with employee training.
 - Identifying potential markets for recyclables not collected by the City, such as large quantities of plastic film.
8. **Ensure that all commercial recycling carts are properly labeled.** Labels should be multilingual and include pictures of the materials to be placed in the recycling cart. Collection crews should identify labels that are no longer legible and ensure their replacement.
9. **Consider dumpster service for commercial recyclables.** The City currently collects commercial recyclables using 96-gallon carts or 18-gallon bins; however, dumpster service might be more practicable for large businesses, not only to service but also for space and aesthetic considerations. The City should evaluate whether sufficient businesses might warrant and be interested in receiving recycling service using dumpsters to establish a front-end load recycling route.
10. **Consider enforcing the mandatory residential recycling ordinance.** Mandatory recycling ordinances can be effective in increasing recycling participation and recovered material tonnage only if the ordinance is enforced. The City should consider the policy implications of enforcing its mandatory residential recycling ordinance and the resources that might be necessary to accomplish such enforcement. If such enforcement is implemented and proves successful, the City might then consider mandating commercial recycling.

Long-term Recommendations

11. **Consider single-stream recycling.** Although WM-RA's MRF is capable of processing single-stream recyclables (paper and containers collected together), single-stream collection is not currently included in the RRS agreement. According to Broward County staff, a reasonable revenue payment could not be negotiated for single-stream recyclables to warrant a change. However, if in the future single-stream recycling becomes an option for cities participating in the RRS, the City should further consider this conversion and associated costs. Discussion of the advantages and disadvantages of this type of program are too involved to include in this report, but many communities experience increased recovery rates when converting to single-stream, especially if automated 64-gallon carts are utilized instead of 18-gallon recycling bins.
12. **Consider separate collection of yard waste.** Yard waste typically represents 10 to 20 percent of the municipal solid waste stream, depending upon the jurisdiction. State law bans disposal of yard waste in Class I landfills; therefore, many communities collect this material separately and process it for use as mulch, daily landfill cover, or compost. However, yard waste can be disposed in a waste-to-energy facility and communities participating in the RRS are not required to collect yard waste separately. Despite this, if the City wishes to divert additional tonnage from disposal, it should further evaluate the operational, financial, and policy implications of establishing such a program.

KCI appreciates the opportunity to assist the City of Oakland Park with this preliminary analysis of its recycling program. We look forward to further discussing our recommendations with the City and assisting with implementation as may be needed. Should you have any questions or comments, please do not hesitate to contact my office.

Sincerely,

Kessler Consulting, Inc.



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Project Manager

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